OPPORTUNITIES AND CONSTRAINTS FOR FARMERS OF WEST AFRICA TO USE SEASONAL PRECIPITATION FORECASTS WITH BURKINA FASO AS A CASE STUDY

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Abstract

Skill of seasonal precipitation forecasts for West Africa has improved to the point that forecasts may be of value to agricultural users, especially farmers. We studied agricultural production systems in three agro-ecozones of Burkina Faso to establish: 1) farmer interest in and ability to use forecasts; 2) forecast information farmers request; 3) lead-time required for greatest forecast value; 4) needs for forecast dissemination, interpretation, and application; and 5) possible strategies for using climate forecasts to improve crop production and resource management. The three agro-ecozones studied were a cotton-based system in the relatively high rainfall Sudan area of southwest Burkina Faso; a sorghum and millet based system in the low rainfall central plateau; and a cattle-based system in the very low rainfall Sahel area in the north. Potential value of forecasts to farmers differed among the three zones, with greatest apparent value to farmers of the central plateau and least apparent value to cattle herders of the Sahel. While farmers in all three agro-ecozones expressed a strong interest in receiving seasonal precipitation forecasts, they were much more interested in receiving forecasts of when the rains would start and end, and whether there would be interruptions in rains. Our results suggest that if seasonal precipitation forecasts are disseminated, they should be a part of an extension package that includes discussion of the probabilistic nature of the forecasts, potential response strategies, and risk management. Furthermore, farmers may need greater access to basic agricultural technologies, such as plows, new crop varieties, and fertilizers, before they can benefit fully from precipitation forecasts.

Keywords: Climate change, Climate variability, Drought, Flood, Knowledge systems, Livelihood, Rainfed agriculture, Resource management, Risk management, Sustainable agriculture.